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Protein from the Sea

U.S. Farm Exports
to the Common Market

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Alaskan fishermen use brailing seine to net herring, which is now used mainly for fishmeal. However, burgeoning world demand for fishery products for direct human consumption will tend to gradually shift catches of fish such as sardines away from fishmeal use. See story this page.

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Can the Seas Help Meet World Protein Needs?

BY ROGER S. LOWEN
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HEAVY DEMAND for meat and a relative shortage of feedgrains have contributed to higher meat prices and thrown into sharper relief the difficulty of feeding the world's population. Many eyes are turning to the seas as a source of vital protein for both food and feed.

What is the sea's potential? Can it be fulfilled? The answers to these questions are assuming increasing importance worldwide.

One measure of the importance of fish supplies is that world fisheries produce some 40 to 50 percent of the world protein yield of red meat. (Nutritionists find that fish and red meat provide about an equal quality and quantity of protein per pound of product.)

In 1971, about 42 billion pounds (edible weight) of fishery products were destined for human consumption. If poultry and meat derived from fish meal feeding are added, the total human consumption of fishery products would approximate 47 billion pounds. Red meat consumption (edible weight) was about 105 billion pounds in 1971.

Fishmeal, an important component of animal feeds, is an indirect source of protein for human consumption. The quantity of fish used for meal production reached 25.5 million metric tons in 1970, compared with 42.8 million tons of fish for direct human consumption. But fishmeal production has its problems. The well-publicized difficulties faced by Peru in maintaining its anchovy catch and fishmeal production are a case in point. Further, the burgeoning world demand for fishery products for direct human use will tend to gradually shift catches of such fish as sardines and herring away from fishmeal production. Thus, it is unlikely that the seas will provide more protein to the world through the use of fishmeal as animal feed.

Recently, the world harvest of fish for both edible use and meal topped 70 million metric tons, over triple the 1948 catch, but only 30 million to 50 million tons below the figure considered by some experts as the maximum the world's fishermen can take from the seas without doing harm to stocks. In technical terms, this involves the concept of maximum sustainable yield (MSY). Experience has shown that when fish species are harvested beyond a certain maximum point, catches will plunge sharply and take a long time to recover, if indeed they do recover. Some experts say the MSY of presently acceptable fish will be reached as early as 1980. While others are more conservative, many agree that it will come before the turn of the century. However, if such fish as squid and krill were to become more widely accepted, this picture could change appreciably.

Since the world's population is expected to double from the present 3.8 billion to nearly 8 billion by the year 2000 and since two-thirds of the world's fish catch is earmarked for human consumption, there is growing concern that many areas—particularly those which already are being overfished—will be stripped of their basic stocks by the end of the century.

In most countries, rises in total demand will closely follow population growth. Thus 60 percent of the increased demand is expected to be in 16 developing nations of Asia and the Far East, and the centrally planned countries. The People's Republic of China (PRC) is expected to increase its demand by 2.7 million tons by 1980.

Developed countries, too, with their rising incomes, are expected to eat more fish. Although they are projected to account for only 9.2 percent of world population growth, they are expected to account for about 25 percent of the expansion in fish consumption.

If this demand is to be met, strong measures will be needed to preserve supplies. Resources must be managed on a worldwide basis. All countries will have to take a global view of fishing and agree on methods of management. Members of the U.S. fishing industry feel that the fishing countries of the

world should agree on the maximum catch for each species.

Because of the modern trawler fleets from many countries competing for Atlantic and Pacific catches and the "fish and get out" attitude which many of the world's fishing nations have pursued since World War II, once prolific species have been severely depleted and many other species are in trouble. The sad history of the whale is a prime example. Some whale species can only recover in many years—and some may never do so. The herring in the North Sea and the sardines in the Mediterranean will be on their way out if something is not done to save them from extinction soon.

North Atlantic waters no longer yield the rich catches of cod, haddock, and ocean perch of just a few years ago Salmon, too, have all but disappeared in the North Atlantic and cod catches are at or beyond their MSY. Other bottom fish are on the verge of becoming highly endangered species.

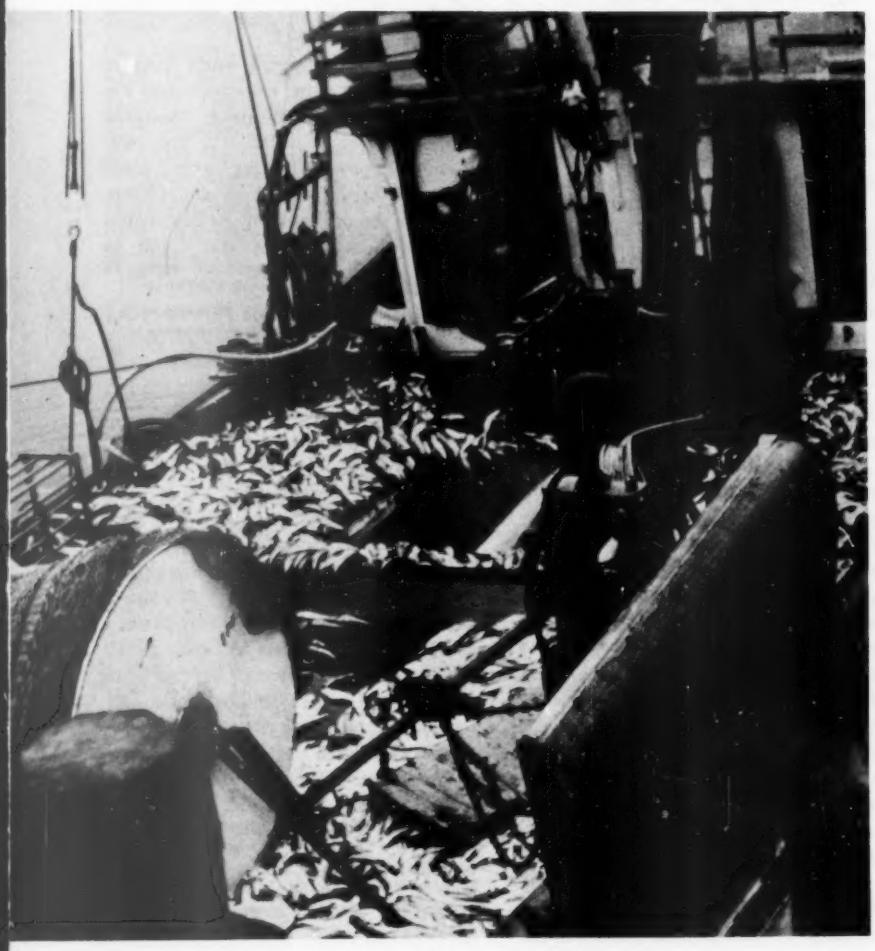
Farther south, catches of porgy, sea bass, and flounder have slumped. In Pacific Northwest waters, halibut and king crab are in short supply.

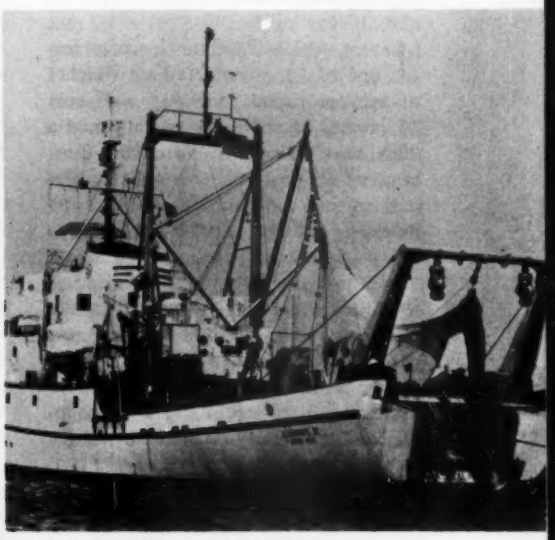
For tuna, world consumption could approach 5 million tons by 1990 if supplies were available. But this will not be possible because the MSY of known world tuna resources is estimated at no more than 2.6 million tons annually.

BRITISH CONSUMPTION, which was only 383,000 tons (canned) in 1966, is expected to reach 1.3 million by 1990. And Japan, the second largest consumer, is expected to increase its level from 387,800 tons (raw and canned) to slightly more than a million tons in the same period. The European Community (EC), Spain, Peru, Republic of China (Taiwan), Turkey, Canada, and the United Kingdom all are forecast for much higher consumption levels by 1990. Obviously, these individual country forecasts of demand for tuna will not be matched by supply.

The MSY for shrimp and prawns is expected to be reached even sooner than that for tuna, with demand overtaking production by 1980. Total world harvest potential is estimated at 861,000 tons (heads off). U.S. consumption, which was slightly more than 150,000 tons in 1968, is expected to reach nearly 635,000 by 1990 and 1.2 million by 2000 if supplies are available. Western Europe and Japan, too, are experiencing rapid growth in demand for shrimp.

The MSY is but one barrier to increased fishing production. Another is pollution. An increasing volume of industrial and human waste pollution is being poured into the oceans. Jacques Yves Cousteau, the French oceanographer and underwater explorer, has estimated that the fish life in the world's oceans has declined by 80 percent since the end of World War II because of pollution and overfishing. And Nor-





Pacific hake (left) are unloaded at LaConner, Washington. Technologists are trying to make these fish more palatable to swell the supplies available for human use. Stern-ramped trawlers, such as the one above, ply U.S. waters to study the status of fish populations along U.S. seacoasts. Photos courtesy National Marine Fisheries Service.

FISH: DISPOSITION OF WORLD CATCH, SELECTED YEARS, 1958-1970
[In millions of metric tons]

Use	1958	1966	1967	1968	1969	1970
For human consumption:						
Fresh	14.8	18.5	18.7	18.5	18.0	19.0
Frozen	2.8	6.9	7.6	8.1	8.6	9.5
Cured	7.3	8.2	8.0	8.1	8.0	8.1
Canned	3.0	5.0	5.3	5.6	5.8	6.2
Total	27.9	38.6	39.6	40.3	40.4	42.8
For other purposes:						
Reduction[1]	4.4	17.9	20.5	23.0	21.5	25.5
Miscellaneous	1.0	1.0	1.0	1.0	1.0	1.0
Total	5.4	18.9	21.5	24.0	22.5	26.5
Total world catch	33.3	57.5	61.1	64.3	62.9	69.3

[1] Only whole fish destined for manufacture of oil and meal included. Source: FAO Yearbook of Fishery Statistics, Vol. 31.

wegian anthropologist Thor Hyerdahl has reported vast stretches of floating tar and oil slicks in mid-Atlantic caused by the discharge of large oil tankers.

Even if estimates of the impact of pollution are overstated, there is no question that pollution is beginning to cut into world supplies. Many U.S. rivers, lakes, and even offshore ocean areas have been declared unsafe for fishing or shellfish harvesting.

JAPAN, which consumes a world record of 71 pounds (edible weight) of fish per capita compared with only 15 pounds of red meat, recently had a "fish scare" caused by an official Government pronouncement suggesting limitations on consumption of fish and fishery products because of various heavy metal and chemical pollution. Under pressure from the fishing industry, the Government relaxed its guidelines but it is probable that the Japanese will shift gradually to heavier reliance on nonfish sources of protein.

Clearly, increased international cooperation is needed to preserve fishery resources.

The pelagic fish—such as tuna and herring which breed and live at sea—should be managed by an international commission with representatives from each fishing country. The MSY should be determined for each species separately and allocated among the fishing nations.

Also, the quantity of fish available for human consumption could be expanded by using unconventional sources of supply. Some of the species which could measurably increase world supplies are mullet, tilapia, carp, such groundfish as hake and pollock, and wider use of sardines and herring. Of course such measures would require shifting public acceptance to the new and lesser-used species and improved food technology to make these species more palatable.

Another way to increase fish numbers is through fish farming (aquaculture). Fresh water aquaculture has been practiced for centuries. Carp and pike have been raised in European ponds, while trout hatcheries have long been a fixture in England and the United States. Catfish farming, too, is a growing industry in the southern United States.

The Japanese have a long history of aquaculture. They have developed commercial oyster farming and now culture all of their trout, 88 percent of eels, and 72 percent of carp. The Chinese too, have a history of centuries of fish culture to their credit.

However, full-scale farming of the seas is not yet feasible. Cultivation is difficult, if not impossible, for most free-swimming species, especially for those, such as tuna, which travel thousands of miles. Some species with well-defined migratory patterns, such as salmon which seasonally return to fresh water, can be cultivated during part of their life cycles.

In order to farm the seas as the livestock farmer farms his land, the fish farmer would have to parallel the livestock farmer's activities. For example, he would have to enclose selected offshore estuarine areas; move stock from breeding to fattening areas; control weeds, pests, and diseases; use fertilizers to boost supplies of foods; and select and breed the fish for type, taste, and economic food conversion.

Mollusks are the most easily cultivated of marine life because many types are relatively immobile. Shrimp farming, begun in Japan, has spread to Florida and the Gulf Coast.

The U.S. fish harvest has varied little over the last decade, ranging from 2 million to 2.7 million tons. U.S. imports of both edible and nonedible (scrap, meal, solubles, and other products used largely for feed and industry) fish however, have risen sharply. Edible imports, alone, reached more than a million tons (product weight) in 1972. At the same time, exports of U.S. edible fishery products were 86,000 tons—up from only 31,000 10 years earlier.

The largest share of U.S. imports comes from Canada and Japan. Japan is the No. 1 harvester of food fish (Peru leads in fishmeal). The other leading food fishing countries are the Soviet Union, the PRC, Norway, and the United States.

U.S. imports of both edible and nonedible fishery products have risen sharply during the past decade. Edible fishery imports reached 2.3 billion pounds (product weight) in 1972, exceeding imports of 2 billion pounds of red meat (product weight). The value of 1972 U.S. edible fishery imports was more than $1.2 billion and that of nonedible was $261 million for a total import bill of nearly $1.5 billion. U.S. exports of fishery products increased to $158 million in 1972.

To sum up, although world fisheries are capable of some expansion and improvement in utilization they constitute limited resources which will not solve worldwide protein hunger barring some dramatic breakthrough in aquaculture or in the use of plankton. At best, cooperation among nations will result in

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FISH AND RED MEAT: PER CAPITA CONSUMPTION, BY COUNTRY, EDIBLE WEIGHT, 1970
[In pounds]

Country	Fish shellfish[1]	Red meat[2]
United States	12	122
Canada	12	106
Mexico	4	24
Brazil	6	38
Argentina	5	139
Peru	19	20
United Kingdom	19	91
France	18	91
Germany, West	9	92
Italy	14	48
Spain	30	46
Poland	11	59
USSR	23	55
Japan	71	15
People's Republic of China	8	([3])
Philippines	44	18

[1] Data covers years varying from 1964 to 1972. [2] Estimated figure—66 percent of consumption on carcass weight equivalent. [3] Not available. Sources: Fisheries of the U.S., NMFS: FLM 2-73 on World Meat Consumption.

French Farmer Group Explores Ways To Raise Protein Output

ONE SIDE EFFECT of the current tight supply of oilseed cakes and meals has been a growing interest among importing countries in reducing their dependence on the world market. The views of one activist in this area—France—are put forth in a report by the Wheat Producers' General Association (AGPB).

Distributed at the Association's 49th Congress in Strasbourg, the report describes the present situation in France and the European Community (EC) generally and explores possibilities of better using national resources to increase self-sufficiency in high-protein feed ingredients. Proposals are close to what the French are advocating at the EC level, indicating that the report may have been given serious consideration in setting the official French position.

The proposals, however, are generally of a fairly long-term nature and would have little impact on supplies in the next few years.

The report points out that the average EC rate of self-sufficiency in high-protein feed ingredients is only about 12 percent of a need that comes to around 7.2 million tons annually for all of the nine EC members. Soybean meal, the main import, accounts for about half of French meal consumption. Next to West Germany, France is the second largest soybean consumer in the EC, followed by the Netherlands and Italy.

Imports by the original six countries of the EC, the report said, rose from 1.9 million tons in 1967 to 3.1 million in 1971, with the resulting price increase creating, "a situation throughout the EC as unfavorable as in France."

Factors cited as sparking more recent gains were disruption of the world fishmeal market following discontinuance of Peruvian fishing last year; a lack of adequate transportation facilities to supply a rising world demand; climatic problems that reduced African peanut crops and disrupted soybean harvesting in the United States last year, and unprecedented demand from the USSR, which purchased a million tons of soybeans last year.

Also pointed up was the concentration of exportable protein materials in the hands of a few—notably the United States, which "alone represents more than half the international trade," and Peru, the second largest supplier. Brazil was listed as a country that would move up rapidly as a soybean exporter in coming years.

Import requirements, the report said, also are accounted for by a few countries with the nine EC members and Japan alone representing three-fourths of requirements. However, this was seen being reduced by rapid emergence of other countries as markets as their livestock industries gain ground. Noted especially were Eastern Europe and the USSR, with the latter pictured as a potential market for one-fourth of the exportable supply of U.S. soybean meal.

Because of such anticipated problems, the report proposed a Community policy of commercial contracts at negotiated prices, plus efforts to expand domestic protein production. Among the possibilities mentioned for enlarging domestic supply were:

"Average EC rate of self-sufficiency in high-protein feed ingredients is only about 12 percent of a need that comes to around 7.2 million tons annually for all nine EC members. Soybean meal, the main import, accounts for about half of French meal consumption."

- Better use of forage as a way of expanding protein available to ruminants —cattle, sheep, and goats. Establishing economic operations, however, was seen as a problem.
- Increased use of urea in feed for ruminants. This was seen as a potential for large gains, possibly enlarging the present 10,000-ton urea consumption by tenfold in 5 years. Nitrogen supplied from it could reportedly account for 20-25 percent of the total nitrogen ration for cattle fed on corn silage.
- Expanded cultivation of oilseeds. Rapeseed area might be increased to 1.2 million acres from the present 800,000; sunflowerseed to 250,000-370,000 from 116,000; and linseed and soybeans to 250,000 each from about 120,000. This would make for an additional production of over 300,000 tons of protein.
- Increased use of vegetableseeds (such as peas and horsebeans) in animal feeds. Many growers would reportedly grow peas for this purpose if a price of 90 to 100 Francs per quintal (US$210-$234 per metric ton) were guaranteed. Horsebeans might be expanded to 250,000-300,000 acres from the 37,000 currently in production. This development, however, depends on research to obtain winter hybrids with higher yields.
- Commercial production of biosynthetic lysine. However, costs here are still too high, and technical problems are present.
- Better use of available grains. The current trend of substituting corn for barley and wheat was seen as retarding this development.

THE REPORT SAYS that hypothetically these changes could lead to production of a million tons of raw protein but that "in actuality" the savings would be only about 450,000 tons. Total demand, on the other hand, would probably be between 1.7 and 2.3 million tons, with some possible reduction achieved by lowering use of protein in animal feeds. The latter development could possibly save up to 10 percent on feeds for monogastric animals—hogs and poultry.

But even under the most favorable conditions, such savings would achieve a self-sufficiency rate of no more than 50 percent.

Longer-run improvements suggested were:

- Using grains rich in raw protein and better balanced in amino acids as a result of genetic improvements;
- Using proteins extracted from various plants (whole plants such as alfalfa or only the grains such as horsebeans, rapeseed, and sunflower);
- Using unicellular proteins such as yeast grown on petroleum substratum, as well as other substrata such as cereals and cereal byproducts.

A final suggestion was to introduce soybeans and linseed into the EC regulations on oilseeds so their prices would be supported or into a regulation set up for products rich in protein.

—Based on dispatch from
KENNETH E. OGREN
U.S. Agricultural Attaché, Paris

Colombia Slows Exports of Meat And Livestock But Plans Growth

BY JAMES H. STARKEY, III
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IN AN EFFORT to cope with a meat shortage and high prices at home and still maintain exports at a reasonable level, Colombia has applied export quotas to beef this year and halted foreign sales of live cattle, except for those provided for in the Colombo-Venezuelan trade pact. Colombia also put hide export quotas into effect in 1972, and plans to halt foreign sales completely by 1976.

However, the Government's long-term plan is to stimulate substantial increases in domestic meat production by 1990 by making more technical assistance and credit available to livestock producers. Colombia also wants to boost its beef exports from an estimated equivalent of 300,000 head in 1976 to 1 million head by 1990 and more than double the cattle population between 1972 and 1990 to 48 million head.

Colombia's 1973 export plans included the sale of 5,000 head of cattle to Venezuela. This figure has now been revised downward to about 1,500 head, as negotiations with Venezuela, which could have provided up to 70,000 head this year, have not been completed. If and when they are successfully terminated, Venezuela will attempt to halt contraband cattle shipments from Colombia to Venezuela in return for the increased cattle allotment.

The Colombian livestock herd expanded in 1972, reflecting increased retention of females, a practice which began in late 1971. Cattle numbers on December 31, 1972, were estimated at 20,960,000 head, up 2.2 percent during the year.

Slaughter during the year just ended is estimated at 2,499,000 head, down almost 10 percent from the 2,768,250 head slaughtered in 1971. Slaughter of female beef animals fell to an estimated 40.5 percent of the total, from 41.8 percent in 1971.

Colombia's beef production last year was 424,830 tons, down 9.2 percent from the 462,298-ton output of 1971. Yield per animal was up 6.6 pounds, however, bringing the average liveweight to 375 pounds. Because of good pasture conditions last year, many cattle were fed on grass longer and marketed at heavier weights. (All weights are in metric tons.)

The outlook for 1973 is for a further increase in cattle numbers as herd building and retention of females continue, bringing the cattle population to an estimated 21,420,000 head, 2.2 percent higher than in 1972. Slaughter is expected to be down about 5.1 percent to 2,372,000 head, with the percentage of females slaughtered expected to comprise 35 percent, resulting in reduced domestic supplies.

Colombia's swine numbers have been on a downtrend in recent years, mainly because of the scarcity and high price of feedgrains. The total 1972 swine population was estimated at 2,476,000 head, down slightly from 2,508,000 head the year before. The bulk of these were of poor quality nonmeat types maintained on pasture with very little feed.

Swine slaughter was estimated at 1,568,000 head in 1972, yielding 86,240 tons of pork, for an average yield of just over 121 pounds. This compares with a slaughter of 1,518,000 head in 1971, reflecting, in part, the effect of the beef ban.

The swine-number downtrend was expected to continue into 1973 to around 2,407,000 head. Slaughter and pork production is expected to similarly decline due to reduced consumer demand in response to rapidly rising pork prices.

Sheep numbers have also tended to decline in recent years because of limited domestic demand for lamb and mutton. They were estimated at 1,651,000 head in 1972, 3 percent less than 1971's 1,700,000 head. Only about 163,000 head were slaughtered last year, producing 2,738 tons of lamb and mutton.

Sheep numbers are expected to fall to 1,619,000 head in the current year, and slaughter could also be slightly lower because of sharp increases in lamb and mutton prices in recent months.

Exports of live cattle were lower in 1972 reflecting implementation of a Government policy to substitute beef shipments for those of cattle on the hoof. Last year's legal exports totaled 53,180 head, down from 94,981 in 1971.

It is estimated that from 200,000 to 300,000 head of contraband cattle are usually shipped annually to Venezuela to take advantage of higher prices. Although Colombia and Venezuela are discussing ways to terminate this illicit trade, it remains to be seen how suc-

cessful they would be, as Venezuela is currently experiencing serious beef shortages along its western border and price differentials between the two countries are widening.

Colombian exports of livestock products in 1972 reached a record US$44.7 million, based on the value of export licenses approved last year. This compares with 1971's $29.1 million.

Exports of beef, mainly compensated quarters, hindquarters, and special cuts, reached 33,420 tons, almost double the 1971 level of 18,334 tons.

Strong world prices were the main factor in this jump. Colombia's principal markets were Spain, Peru, and the French Antilles; 487 tons of beef were shipped to Italy for the first time in what could be the beginning of a fairly substantial export trade. Some cooked beef was also exported to the United States.

The outlook for 1973 is for a leveling of beef exports. Because of export controls on beef, shipments this year are expected to be limited to the equivalent of 155,000 head. This would mean an export volume of 33,000 tons, just about the same as 1972.

Despite heightened interest by some European countries in Colombian beef, meat exports will probably continue to be channeled to traditional markets—Spain, Peru, and the Caribbean. Exports of cooked and processed beef, mainly to the United States, had been projected at about 4,000 tons this year. However, no exports have been made to date because of high prices being paid in Europe for special cuts.

HIDES AND SKINS EXPORTS in 1972 were more than twice those of the previous year, taking advantage of strong world demand and rising prices. About 720,000 pieces were exported from a total production estimated at 1.7 million. Only 300,000 had been shipped out of the country the previous year.

The increase in Colombian hide exports created a tight domestic supply situation with a resultant sharp jump in internal prices. To help alleviate the situation, the Colombian Government has established a system of export quotas that took effect this year. Calling for exports of only 360,000 pieces in 1973, 240,000 in 1974, and 120,000 in 1975, hide exports will fall to zero in 1976.

On the import side, tallow purchases amounted to 38,052 tons, 19 percent higher than the 31,949 tons imported in 1971, but below the record 41,488 tons imported in 1966 when concern about possible shortages of foreign exchange caused stockpiling. Almost all of Colombia's tallow comes from the United States.

The increase in 1972 tallow imports is laid to a rising demand for soap and to reduced domestic production, a consequence of the drop in cattle slaughter. While demand for tallow continues strong, current high world prices are expected to reduce 1973 import volume substantially.

Colombia To Up "New" Exports in 1972-75

In 1972, for the first time, Colombia's nontraditional exports equaled almost one-half of the foreign exchange derived from coffee and petroleum, long-time export leaders. Increasing by an impressive 67 percent, "new" exports like cotton, sugar, and beef reached more than US$392.1 million in registration value by year end, according to the Colombian Information Service. The country hopes to attain its $1-billion export goal for these products by 1975.

This goal is part of the 1972-75 Plan to expand production of new exports, thereby reducing the country's dependence on coffee earnings. Two bureaus—the Foreign Trade Institute (INCOMEX) and the Export Promotion Fund (PROEXPO)—cooperate with the private sector of the economy, especially the National Association of Manufacturers (ANDI), to implement the program. The Vallejo Plan, which permits raw materials for manufacture of export products to be imported free of custom duties, also encourages export of nontraditional products.

Singled out for emphasis among the newer exports are a group of 14 products. Most of these are agricultural, such as processed beef, live cattle, flowers, sugar, and bananas.

COLOMBIA: NONTRADITIONAL FARM EXPORTS, 1972[1]

Item	Amount	Share of total
	1,000 dollars	*Percent*
Cotton fiber	48,897	12.5
Sugar	30,851	7.8
Beef	29,271	7.4
Fabrics and yarns	28,751	7.3
Bananas	12,939	3.3
Live cattle	10,795	2.8
Textiles	9,908	2.5
Tobacco	9,900	2.5
Shrimp and fish	9,827	2.5
Feed cakes	9,800	2.5
Tanned hides	7,809	2.0
Other	183,352	46.9
Total	392,100	100.0

[1] Registered f.o.b. value.

U.S. Farm Exports to EC Rose 47 Percent in 1972–73

BY DEWAIN H. RAHE
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Economic Research Service

VAULTING TO the highest level in history, U.S. farm exports to the expanded European Community (EC) in fiscal 1973 rose to an unprecedented $3.59 billion—a whopping 47 percent over last year's. Spearheading the advance were a 2.6-million-ton rise in U.S. feedgrain exports and higher-valued sales of soybeans and soybean products.

Underlying exploding feedgrain demand were reduced grain and protein availability worldwide and higher world prices for oilseeds and meals, forcing EC feed compounders to substitute grain for higher-priced protein meal in feeds. Further, feedgrain availability from the major exporting and competing countries was about 4 million tons below 1971-72.

The major rise in U.S. agricultural products moving to EC markets occurred for products not covered by the EC's elaborate system of variable levies, which prevents specified imports from entering at prices below minimums established under the Common Agricultural Policy (CAP). For nonvariable levy products, highlights included a 58-percent value gain in U.S. soybean and product exports, record tobacco sales, cotton shipments that rebounded to previous highs, and expanded fruit and vegetable trade.

But the U.S.-EC trade picture may not be quite as bright as it appears. In spite of the excellent farm export showing during the fiscal year, the U.S. share of the EC's agricultural market has continued to edge downward—following a trend of recent years. In 1972, for example, the United States had only about a 9-percent share of the enlarged-EC market for farm products, compared with approximately 12 percent a decade ago. Moreover, U.S. farm exports to the EC in 1972-73 represented only about 30 percent of all U.S. commercial exports, compared with 35 percent last year.

Owing to burgeoning agricultural exports, the United States recorded an overall trade surplus with EC countries of $51 million in fiscal 1973, compared with a deficit of $297 million the previous year. Although noteworthy, the relatively small fiscal 1973 surplus contrasts sharply with trade surpluses of $1.8 billion in 1970 and $1.3 billion in 1962.

The major reason for less favorable trade balances during the past 3 years has been the substantial gain in U.S. imports of EC nonfarm products, far surpassing export growth of these products. Nonfarm-product imports from the EC surged to an alltime high of $12.8 billion in 1972-73 from $10.5 billion last year, causing the nonfarm trade balance to deteriorate to a record deficit of $2.7 billion, compared with only a $99-million deficit in 1961-62.

Conversely, the U.S. farm trade balance with the EC swelled to $2.7 billion in 1972-73, advancing for the fourth consecutive year.

A record $955 million worth of U.S. products that are subject to the CAP's variable levies moved to EC markets in fiscal 1973, surpassing the old record of $923 million set 8 years ago. Feedgrains led the value gain, but exports of wheat, rice, poultry, eggs, and other items also showed moderate or small increases.

Losing ground swiftly, however, was U.S. butter, which slid to $400,000 from last year's $47-million purchases by the United Kingdom in large part because of reduced supplies in Continental Europe and New Zealand. EC recovery to a surplus butter producer eliminated needs for the U.S. product.

Growth of U.S. exports subject to variable levies occurred only to the original Six, while sales to new members dipped slightly. The original members recorded a $778 million total, compared with $457 million a year earlier, but purchases by the Three slumped to $176 million from $178 million.

A star export item, U.S. **feedgrains**, zoomed to 10.5 million tons in fiscal 1973, with value mushrooming by 60 percent to peak at $686 million. Most went to EC-6 members, which took 8.8 million tons, compared with 6.7 million in 1971-72. The previous record in U.S. feedgrain sales occurred in 1967-68, when 7.7 million tons were exported to the Six. In the ensuing 3 years, however, exports turned down sharply, bottoming at 4.7 million tons in 1969-70, before beginning the uptrend of the past 3 years.

Complex supply-demand factors heralded the upturn in U.S. feedgrain sales to the EC. Notable during fiscal 1973 were reduced feedgrain harvests in usually surplus countries—especially South Africa and Australia. Nonfeed grain supplies—primarily manioc—were scarcer in Africa and Asia because of drought conditions. At the same time, world sources of other proteins, such as Peruvian fishmeal, were below normal levels.

Prior to last year, feed compounders throughout the EC tended to substitute U.S. soybean meal and nongrain products not subject to the grain CAP for higher priced EC-grown grains in feeds. When soybean meal prices at Rotterdam more than doubled between January 1972 and January 1973, EC farmers and feeders increasingly turned to grains to supply their protein needs. As a result, grain accounted for a much larger share of ingredients in mixed feeds last season.

"The U.S. farm trade balance with the EC swelled to $2.7 billion in 1972-73. But the U.S.-EC trade picture is not quite as bright as it appears."

Italy accounted for nearly 1 million tons of the expanded U.S. feedgrain exports in 1972-73, due in part to lower variable levies—$7.50 a ton—which Italy is permitted to charge. As a result, Italian feed compounders found it more economical to import coarse grain from the United States than to purchase from other EC countries.

Last year's record level of U.S. feedgrain exports to the EC occurred despite the fact that EC coarse grain

production was at an alltime high in 1972—it reached 60.8 million tons, compared with 59.4 million tons in 1971 and only 41.3 million tons in 1962.

Expanded EC grain production has been stimulated by high support prices in the Community. These increased supplies have had a detrimental effect on U.S. exports. Net EC feedgrain imports dropped from 15 million tons in 1962-63 to only 11 million in 1972-73.

EXPORTS of U.S. **wheat** to the EC have fluctuated widely during the past decade since the inception of the CAP, rising and falling in relation to the quantity and quality of Community production. But in fiscal 1973, 93 million bushels of U.S. wheat, costing $176 million, went to EC-9 millers, compared with only 57 million tons, valued at $94 million, last year.

Although the enlarged EC is nearly self-sufficient in wheat—the harvest yielded an estimated 40.1 million tons in 1973—the Nine still import relatively large volumes of high-protein wheat for blending with soft wheat to obtain the desired baking quality.

In 1972-73, exports to the new members totaled $32 million, down slightly from the $38 million the previous year. Exports to these countries have fluctuated wildly from $5 million to $70 million during the decade.

U.S. **rice** exports to the enlarged EC totaled $39 million in 1972-73, well above the $24.2 million in 1971-72 but still below the $44 million exported in 1969-70. In recent years, U.S. rice exports to EC markets have declined, primarily reflecting reduced shipments to the original Six. Increased competition from other suppliers and increased protectionism from the variable levies, which give a competitive edge to rice producers in France and Italy, have discouraged U.S. rice movements.

The 1972-73 value increase for U.S. rice exports reflects substantially higher prices and a larger market share because of less competition from Asian and Latin American suppliers. U.S. exports of long-grain rice to the EC gained moderately during most of the 1960's, reflecting the preference of most North European countries for this type of rice. Exports to the new EC members have been relatively stable, ranging from $10-$12 million in recent years.

Sales of U.S. **poultry** to the EC rose to $18 million in 1972-73 from $12 million a year earlier, owing to a strong demand for turkey parts and products and hatching eggs. Turkey products—introduced through U.S. market development programs—have been a major item in these markets. Early in fiscal 1973, relatively low U.S. prices for eggs stimulated these exports.

Although exports of turkey products and eggs in 1972-73 gained to both original and new EC members, U.S. poultry meat exports were discouraged by an import charge of 11-38 cents a pound, depending on the item, provided by the variable-supplementary-levy system. As a result of protection provided by its system, the EC is self-sufficient in poultry meat (except turkey meat), but per capita consumption of poultry meat was only slightly over 25 pounds per person in 1972—about half the level in the United States.

Since the early 1960's most of the growth in U.S. agricultural exports to the EC has occurred in nonvariable-levy items. Soybeans and soybean products accounted for most of this growth, but gains have also occurred in fruits, vegetables, hides and skins, tobacco, variety meats, nuts and preparations, and corn byproducts. Cotton exports to the EC have advanced in the past 5 years from a low of $23 million in 1969-70 to $113 million in 1972-73.

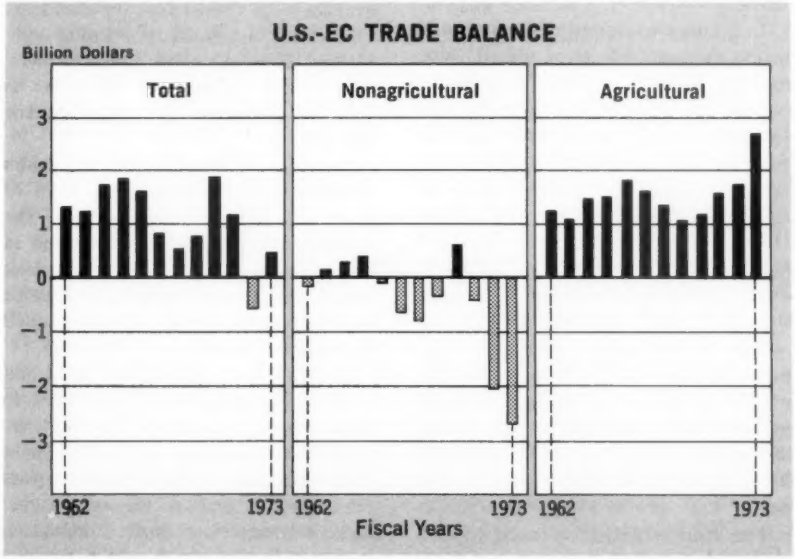
Many nonvariable-levy commodities are subject to duties in the form of tariffs and many fruit and vegetable products are protected by reference prices. When import prices fall below the reference price, a compensatory tax is imposed to offset the difference.

U.S. exports of **oilseeds and products** to the enlarged Community advanced to $1.53 billion in 1972-73 from $961 million a year earlier. The original Six took $1.34 billion or nearly 90 percent of the total. Since 1962, when the CAP was adopted, the brightest spot in U.S. agricultural exports to the EC has been the annual gain of about 10 percent in shipments of oilseeds and oilseed products.

THIS GROWTH has occurred because of increased consumer demand for livestock products. Per capita income in EC countries has increased rapidly in the past decade, growing at an average annual rate of about 10 percent, and consumption of meats and other livestock products has advanced sharply. During 1962-72, for example, per capita consumption of beef rose from 48.9 to 53 pounds, consumption of pork increased from 54 to 60 pounds, and poultry from 14 to 25 pounds.

The growing demand for livestock products has been fulfilled mostly from increased Community production of meat, dairy products, and poultry. Growth in livestock production, in turn, has caused a sharp upturn in demand for protein supplements, primarily because the relatively high EC grain prices have encouraged the substitution of nongrain feeds, which required more protein supplements.

While suppliers other than the United States have shared in the growth of the



EC protein market, their supplies have been limited. Other protein sources, mainly fishmeal and peanut meal, were also in short supply in 1972-73, generally cost more than U.S. soybeans, and are less well-suited for poultry feeding. Thus, the EC imports nearly all of its protein supplements for the mixed feed industry, with the United States supplying about 60 percent of these imports.

The enlarged EC took $425 million worth of U.S. soybean meal in 1972-73, with the original members accounting for over 90 percent of the total. The volume of exports during 1972-73 was only slightly above the level of the previous year because of tighter U.S. supplies. But higher prices caused a 53-percent increase in value. More EC meal has come from the crushing of U.S. soybeans.

With demand for protein meal growing at a faster rate than demand for oil, the EC is likely to continue importing large quantities of meal. Demand for meal is expected to gain in the new member countries as the implementation of the CAP raises feedgrain prices in these countries.

Vegetable oil exports to the EC fell to $12 million in 1972-73 from $17 million a year earlier. Increased oil available from the crushing of U.S. soybeans was the principal reason for the decline. But more vegetable oils were also available from other sources. Also, EC production of animal fat, especially butter and lard, rose substantially and reduced import requirements considerably.

U.S. unmanufactured **tobacco** exports to the enlarged EC hit a record value of $329 million in 1972-73. Quantity was up 6 percent to 309 million pounds. Exports to the United Kingdom, which accounted for most of the increase, rose to 129 million pounds in 1973 from 100 million pounds a year earlier. Other increases occurred to Denmark and Belgium-Luxembourg. Exports to West Germany, France, and Italy, however, were off from a year earlier.

Most of the increase occurred in exports of flue-cured tobacco, but shipments of burley, Virginia sun-cured, and miscellaneous tobaccos also gained during 1972-73. Overall, the enlarged EC accounted for approximately one-half of U.S. tobacco exports in 1972-73.

The future of U.S. tobacco exports to the EC is uncertain because the CAP for tobacco encourages domestic production by providing higher price supports with buyers premiums (payment for the purchase of domestic-grown leaf) and extends EC preferential tariff treatment to African Associates. This preference will probably be extended to a number of Commonwealth less developed countries. These countries have been expanding their tobacco production in order to export to the enlarged EC.

During the 1960's, U.S. **cotton** exports to countries now comprising the EC declined, reaching a low of $23 million in 1969-70. Since then, however, exports have moved upward, totaling $113 million in 1972-73—the largest since 1964-65. The original members were the most important customers in fiscal 1973, taking 90 percent of the total.

"Record U.S. feedgrain exports occurred despite the fact that EC coarse grain production was at an alltime high in 1972. When soybean meal prices doubled . . . EC farmers and feeders turned to grain to supply protein needs."

The higher level of cotton exports in 1972-73 resulted from a substantial rise in demand and somewhat limited availability in other exporting countries. U.S. cotton has faced very strong competition from expanded cotton production in the developing countries, as well as advancing use of manmade fibers.

Exports of **fruits and vegetables** zoomed to $104 million in 1972-73 from $65 million a year earlier. The increase was primarily concentrated in fresh citrus products, dried fruits, fruit juices, and canned fruits. For canned and dried fruits, higher prices accounted for most of the gain.

About three-fourths of the total and most of the gain in 1972-73 went to EC-6 member countries. Currency realinements have made many U.S. fruit and vegetable products more attractively priced. But at the same time, U.S. products face high competition from production gains within the EC and preferential treatment afforded to many Mediterranean countries. Also, South Africa and Australia have increased their production for shipment to EC markets.

Exports of **vegetables and preparations** to the EC rose 14 percent to $52 million in 1972-73, with the new members accounting for nearly two-fifths of the total. Most growth in the past year has occurred in dried beans, fresh vegetables, and canned vegetables. Hop exports fell from $7 million in 1971-72 to $4 million in 1972-73. In fiscal 1972, the Community imported large quantities of U.S. hops because of reduced production and low quality of European hops.

Nuts and preparations exports to the EC have shown a continued upward growth since the 1960's. In 1972-73, nut exports totaled $39 million—only slightly below the $41 million worth a year earlier. Some improvement in European production and smaller U.S. output slowed the growth in U.S. exports in the past year. The enlarged EC took about one-half of total U.S. nut exports in fiscal 1973.

U.S. shipments of **hides and skins** to the EC rose 77 percent to $108 million during 1972-73. Higher prices accounted for most of the gain. However, export volume gained 28 percent, totaling 2.2 million pieces. Demand for U.S. cattle hides in principal world markets has been very strong because of the Argentine embargo on cattle hides.

Fiscal 1973 exports of **tallow** totaled $45 million, compared with $37 million a year earlier. While U.S. tallow prices were attractive, large supplies of animal fats and oils within the EC somewhat reduced the need for imported products.

U.S. exports of **variety meats** to the EC advanced to an alltime high of $84 million in fiscal 1973, primarily because of increased meat demand. European demand for these products is strong for use in specialty products and food preparations. But in 1972-73, higher prices accounted for most of the value gain.

Exports to the EC of corn by-products, primarily corn gluten feed, totaled $69 million in fiscal 1973—nearly three-fifths above last year's level. Since the U.S. price of corn gluten feed is well below the price of grains in the Community, feed manufacturers there find it very profitable to substitute this product for the higher-priced grains.

Ecuador's Oil Output Lags Below Demand—U.S. Exports Gain

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ECUADOR'S AGRICULTURAL development has lagged behind other areas of economic progress and is not keeping pace with domestic requirements. As a result, much of the country's deficit food needs must be imported. Of the import commodities, vegetable oils rank second in importance after grains, primarily wheat.

Since 1971, the U.S. share of Ecuador's vegetable oil imports has increased to 75 percent of the market. Currently prospects are good for the U.S. position as a major supplier of oil to be maintained at current levels or expanded.

Until mid-1972 when Ecuador began to pump petroleum, the economy was based almost entirely on agriculture. However, foreign exchange earnings from crude oil will equal those from all of agriculture during 1973. The increased income will permit both large amounts of investment in agriculture and expenditures on imports of food items to meet continuously rising domestic needs. Prior to 1947, fats and oil needs of the country were met from hog lard supplemented by small quantities of locally produced palm, cottonseed, sesame, and copra oils. Growth in vegetable oil production was relatively slow throughout 1947-68. Only over the past few years has rapid progress in this area been made, primarily from African palm oil.

Excluding hog lard, consumption of edible fats and oils during the fifties increased from 1,400 tons to 8,400 tons.

EDIBLE FAT AND OIL USE, 1973-80

Year	Per capita	Total
	Pounds	*Tons*
1973	14.1	43,700
1974	15.4	49,300
1975	16.9	55,900
1976	18.5	63,300
1977	20.2	71,500
1978	22.2	80,000
1979	24.3	91,800
1980	26.6	104,000

The decade of the sixties saw consumption almost triple—from 10,000 to 27,900 tons. The Ministry of Agriculture's projections for internal consumption for 1973-80 show a gain from 43,700 tons to 104,000 tons.

As Ecuador's consumption of fats and oils has increased, so have its imports. Between 1958-61, vegetable oil imports, primarily hydrogenated soybean and cottonseed oil, averaged 6,600 tons, of which the United States supplied 55 percent or 3,634 tons. From 1962-65, imports totaled 8,700 tons, of which 4,800 tons or 55 percent came from the United States.

During this period the proportion of hydrogenated oils declined in favor of unrefined edible oils as several Ecuadorean firms added facilities for hydrogenation. Average yearly imports were at 11,500 tons during 1966-70; however, the U.S. share declined to 37 percent during these years.

MUCH OF THE STIMULUS for the larger import volume was due to Government curtailment of tallow use in shortenings. The United States did not share in the growth because European suppliers were granting more favorable price and credit terms to importers. U.S. sales reached a low point in 1969 when 17,500 tons of vegetable oils were imported, of which only 3,400 tons or 19 percent were supplied by the United States.

A reversal of this downtrend came in 1970 when Ecuador imported 5,300 tons (38 percent) from the United States of its total requirements of 13,800 tons. This followed the signing of a long-term dollar credit agreement between the United States and the Government of Ecuador on June 30, 1969.

By 1971 imports increased to 20,700 tons, when the U.S. share rose to 15,600 tons or 75 percent. During calendar 1972, Ecuador imported approximately 30,000 metric tons of vegetable oils, of which nearly 17 000 tons, or 57 percent, were U.S. soybean oil. In addition, 9,200 tons of palm oil were reexported from the United States.

To help meet the steadily rising demand for vegetable oil, as well as all foods, through greater domestic production, the Government of Ecuador has initiated a 5-year development plan with programs for all major agricultural commodities. Main points of the Government's vegetable oil program are as follows:

- The $5 million Ecuador spends importing fats and oils each year is an unnecessary drain on the economy because Ecuador can and should produce more oilseeds.
- By 1980 internal demand can be expected to reach 28 960 metric tons of refined edible oils, 66,760 tons of vegetable lard, and 51,620 tons of soap; a total fat requirement of 105,200 tons.
- Ecuador's principal problem—in addition to insufficient area planted—is low yield, despite the improved varieties and increased Government technical assistance. Presently, one acre of oilseeds, including cottonseed, peanuts, soybeans, and sesame, yield an average of only 260 pounds of oil per year. Yields should be more than double this amount. African palm oil yields also should nearly double the present 983 pounds per acre.
- For each additional acre of African palm oil that reaches its production potential, nearly 7.5 acres of land could be freed for other uses.
- Industrial oilseed crushing capacity is more than adequate for the country's annual needs, but for African palm oil, additional extraction capacity is needed.

While the Government believes self-sufficiency is a worthwhile goal, further studies are necessary to determine how much effort should be exerted in this direction, as the country's resources and technology may be better used elsewhere.

Even with the Government plan for improved domestic production and yields, Ecuador's vegetable oil imports are expected to stabilize at about the 30,000-ton level for the next few years. Some substitution of soybeans for local processing could reduce crude oil imports by their bean equivalent. However, the processing industry has indicated it will continue to look to the United States as the principal source of Ecuador's crude oil supplies.

CROPS AND MARKETS

COTTON

Du Pont Reduces Polyester Output

E. I. du Pont de Nemours and Co. announced on November 9 a 10-percent reduction in deliveries of polyester fiber for the months November, December, and January. The action was attributed to a shortage of raw materials resulting from the energy crisis.

Polyester is the principal manmade fiber used by the U.S. textile industry for blending with cotton. A reduction in the supply of that fiber may increase demand for cotton and thereby compound the already tight cotton supply situation.

Venezuela Pushes Production Of Approved Cotton Varieties

In a move designed to upgrade the cotton industry, Venezuela has issued a decree urging farmers this season to grow only the Government-approved varieties of cotton in the country's two major producing sites along the Orinoco River and its tributaries and in the El Cenizo region of Trujillo State. The decree also notifies farmers that this is the last year when nonselected varieties can be grown and that the Government has made seed for the preferred cotton varieties available from the National Research Center if commercial sources are inadequate.

GRAINS, FEEDS, PULSES, AND SEEDS

Egypt Buys Australian Wheat

The Australian Wheat Board recently announced the sale of 1 million metric tons of wheat to Egypt. The wheat will be shipped during calendar 1974.

This sale fulfills the Board's commitment to supply Egypt with 1 million tons annually for the next 2 years. Payment will be on extended credit terms of 18 months, with the Australian Government carrying 75 percent of the credit risk and the Board 25 percent.

IRRI Develops New Disease-Resistant Rice

The International Rice Research Institute (IRRI) has developed a rice strain which is reportedly resistant to major diseases and insects. Called IR 1529-3, the new variety produces anywhere from 2.4-3.3 tons per acre, substantially higher than the four-fifths ton or less produced by traditional Southeast Asian rice varieties. But it has been matched or bettered by earlier IRRI varieties. IR 24, for instance, has produced up to 4.4 tons per acre on experimental plots.

IR 1529-3 is supposedly a hardier variety than its predecessors. It is reportedly resistant to blast, bacterial blight, leaf streak, and green leaf hoppers and is moderately resistant to tungro virus. In addition, it has shown a capacity to weather longer dry spells than other IRRI varieties. The urgency of developing a rice plant able to tolerate a shortage of water was underscored last year when drought seared harvests in most Asian countries.

Rotterdam Grain Prices and Levies

Current offer prices for imported grain at Rotterdam, the Netherlands, compared with a week earlier and a year ago:

Item	Nov. 27	Change from previous week	A year ago
	Dol. per bu.	*Cents per bu.*	*Dol. per bu.*
Wheat:			
Canadian No. 1 CWRS-13.5	5.65	−10	2.79
USSR SKS-14	(1)	(1)	(1)
Australian FAQ[2]	(1)	(1)	2.61
U.S. No. 2 Dark Northern Spring:			
14 percent	5.52	+ 6	2.52
15 percent	(1)	(1)	2.54
U.S. No. 2 Hard Winter:			
12 percent	5.43	+ 2	2.48
No. 3 Hard Amber Durum	8.30	+19	2.59
Argentine	(1)	(1)	(1)
U.S. No. 2 Soft Red Winter	(1)	(1)	(1)
Feedgrains:			
U.S. No. 3 Yellow corn	3.35	+16	1.73
Argentine Plate corn	3.53	+13	2.17
U.S. No. 2 sorghum	3.44	+11	1.80
Argentine-Granifero sorghum	3.40	+12	1.82
U.S. No. 3 Feed barley	2.84	+ 2	1.59
Soybeans: [3]			
U.S. No. 2 Yellow	6.94	+54	4.16
EC import levies:			
Wheat [4]	[5] 0	0	1.31
Corn [6]	[5] 0	− 6	1.06
Sorghum [6]	[5] 0	− 4	.95

[1] Not quoted. [2] Basis c.i.f. Tilbury, England. [3] New crop. [4] Durum has a separate levy. [5] Levies applying in original six EC member countries. Levies in U.K., Denmark, and Ireland are adjusted according to transitional arrangements. [6] Italian levies are 18 cents a bu. lower than those of other EC countries.

Note: Price basis 30- to 60-day delivery.

Record French Grain Crop

The 1973 French grain crop (excluding rice) is forecast at a record 41.5 million metric tons—5.3 percent above the previous year's. The latest total grain figures in millions of tons (the previous year in parentheses) are: Wheat, 17.7 (18.1); barley, 11 (10.4); and corn, 10 (8.3).

Thai Rice Exports Decline Sharply

Thai rice exports have declined greatly from the record levels of 1972. Exports amounted to only 40,344 metric tons in June; 6,504 tons in July; 22,151 tons in August; and only 5,258 tons during the first 3 weeks of September. Total 1973 rice exports from January through September 22 were only

680,596 tons—55 percent down from the 1.5 million tons exported in the same period of 1972.

Thai rice prices have risen dramatically. The Thai Government recently released 52,000 tons for export and imposed minimum prices of US$600 per metric ton for highest grade rice and US$425 per metric ton for A 1 brokens. The price for highest grade rice has risen 250 percent in the past year.

Japan To Buy Australian Barley

The Australian Barley Board and the Japanese Food Agency have concluded discussions in Tokyo for the purchase of 300,000 metric tons of barley from South Australia's coming harvest. The shipment, to start in December and continue for 10 months, will be the largest quantity supplied to Japan by the Board since 1956-57.

Record South African Wheat Crop

The South African Wheat Board has increased its wheat production estimate for 1973-74 to the record level of 1.7 million metric tons—over 6 percent above the previous year. A crop this size should enable South Africa to maintain its recently achieved net export position for wheat. Net wheat exports in 1972-73 totaled 378,000 tons, compared with a regular deficit in previous years.

Philippines Buys PRC Rice

The People's Republic of China has sold about 160,000 metric tons of rice to the Philippines through Impeco Trading Co., Winnipeg, Canada. Over three-fourths of these shipments have already arrived in the Philippines. The Philippines have also purchased or are expected to buy about 150,000 tons of rice from Japan, Taiwan, Thailand, and Pakistan.

FRUIT, NUTS, AND VEGETABLES

Heavy Rains Damage Australian Fruit Crops

Current reports indicate that heavy rains and warm, humid conditions have seriously damaged fruit crops in the Goulburn and Murray Valleys of Victoria, Australia. Preliminary estimates indicate root damage may cause peach tree losses of up to 60 percent. Industry expects damage may hold upcoming peach harvest to 35 percent below the 1973 level.

Serious outbreaks of black spot have been reported on Bartlet pears, however, surplus production capacity is expected to provide a normal canned pear pack. Reports indicate little evidence of black spot on Packham Triumph pears which are normally shipped to the fresh market.

Reports from other Australian production areas indicate rain caused about a 10-percent loss of the Murrumbidgee Irrigation Area peach crop, but no damage in south Australia.

Venezuelan Apple and Pear Imports for September 1973

An unofficial tally of apple and pear imports for September (compiled from daily reports of the Venezuelan Port Authority) in metric tons shows: Apples: United States, 42; Argentina, 37; France, 545—Pears: United States, 96; Spain, 11; France, 133—Apples and pears (not separately classified): France, 101.

Spain's New Citrus Crop Smaller

Spain expects to produce 2.6 million metric tons of citrus fruit this year, down almost 8 percent from 1972's, and less than had previously been forecast, according to the Spanish Fruit and Vegetable Syndicate. A crop forecast by major types, in thousands of metric tons (with 1972-73 volumes in parentheses) follows: Oranges, 1,916 (2,100); tangerines, 538 (565); lemons, 185 (199); and grapefruit, 6 (6).

Last year's citrus outturn totaled 2.9 million metric tons.

Norway's Citrus Imports Rise to 72,800 Tons

Increased orange and tangerine imports raised Norway's total foreign purchases of fresh citrus fruit 11 percent to 72,800 metric tons during July 1972-June 1973.

Israel increased its share of the orange market to nearly 44 percent during January 1972-August 1973, while U.S. sales—1,938 metric tons—dropped to 3 percent. Lemon imports declined to 1,558 tons during the 1972-73 period but the United States retained a 64-percent share of the lemon market. Grapefruit imports also declined to 970 tons and the U.S. share of the grapefruit market fell to 4 percent.

Imports of citrus juice rose 14 percent to nearly 4,560 metric tons, with Israel continuing to dominate the market and making the biggest gain in the January-August period. Nevertheless, the U.S. share of the juice market rose 42 percent to 1,360 tons, 30 percent of the market.

Stepped up promotion in Norway promises to help the United States to further increase its shipments of citrus juice in the year ahead.

Canada To Build More Fruit, Vegetable Storage Units

Details of a program to provide financial assistance to producer groups for construction of specialized fruit and vegetable storage facilities was announced by the Canadian Ministry of Agriculture on September 24, 1973. By providing assistance of one-third of the total cost of construction to a maximum payment of about US$500,000, the program is intended to stimulate the construction of storages suitable for preservation of perishable fruits and vegetables over an extended period to time. Expanded Canadian production, improved handling procedures and ensure high quality of produce are seen as benefits of the program.

The program is available to most farm groups such as agricultural producer associations, cooperatives, or boards engaged in the production, storing, and marketing of fruit and vegetables for the fresh market or for processing. Purchase of land, site development, architects' fee, grading and handling equipment as well as roadways or railway spur lines may be included in the total costs eligible for assistance.

Bank Loan To Boost Uruguay's Citrus Output

The Inter-American Bank recently approved two loans totaling $3.1 million to enable Uruguay to increase substantially its citrus fruit production. The funds will be used to rehabilitate, develop, and maintain 13,338 acres of existing plantations and to expand an additional 2,594 acres.

Execution of the project will permit Uruguay to increase its production of oranges, mandarines, lemons, and other

citrus fruits to approximately 130,000 tons a year by 1985 from its present yearly production of 80,000 tons and to increase the value of its citrus fruit exports by as much as $5 million annually, the Bank said.

The total cost of the project is estimated at $5,160,000, of which the Bank loan will cover 60.1 percent and local sources the remaining 39.9 percent.

DAIRY AND POULTRY

Australia Makes Record Dry Milk Sale to U.S.

Australia's giant Murray-Goulburn Cooperative Co. Ltd., recently sold the United States 10,500 tons of an 11,160-ton skimmed-milk-powder quota—the largest sale of this dairy product ever made to the United States by one organization.

In anticipation of the U.S. quota—the first of its kind—the cooperative had shipped 6,500 tons of milk powder to this country in June. The powder was put under bond and thus was immediately available when the Australian quota was announced in August. An additional 4,500 tons were sent to the United States in late November.

The cooperative's sale is reportedly one of the largest of skimmed milk powder by Australia to any market.

U.S. Broiler Sales Reported in Switzerland

Despite declining European broiler prices in the past 2 or 3 months, commercial sales of U.S. broilers to Swiss buyers have been reported recently. In view of pending fuel shortages, some European buyers are evidently concerned about the continuity of broiler supplies.

Danish broilers with giblets were offered at 52-54 U.S. cents per pound in mid-November, c.i.f., Basel.

French To Boost Cheese Sales to U.S.

France's SOPEXA—a quasi-governmental grouping of several agricultural promotional organizations—has predicted that French cheese exports to the United States will double by 1978, although only about 20 percent of French cheese production currently meets U.S. Food and Drug Administration bacteriological standards.

Principal increase of cheese exports to the United States is expected to be in Emmenthal-type cheeses.

SOPEXA and the Exporters Club, a French group, have reportedly allocated $439,000 for cheese promotion in the United States during 1973. SOPEXA is also seeking funds to open a promotion office in California.

FATS, OILS, AND OILSEEDS

Japan's Oilseed and Meal Imports Accelerate in 1972-73

Japanese imports of oilseeds and meals during the 12 months, October 1972-September 1973, mirrored the spectacular growth of Japanese feed demand. Totaling 4.34 million metric tons (soybean meal equivalent), these imports were nearly 20 percent above the 3.63 million tons imported in 1972-73. A 9.8-percent growth was achieved in 1971-72.

Imports of soybeans and meal from the United States in 1972-73 amounted to 2.91 million tons (soybean meal equivalent), one-sixth of 1 percent above the 1971-72 volume. In terms of soybeans, 1972-73 imports from the United States were equal to the protein fraction of about 134 million bushels of soybeans. Import growth from the United States, in terms of soybeans, amounted to 19 million bushels against a growth of 15 million in 1970-71.

In 1972-73, Japanese imports of soybeans and meal from the United States accounted for about 67 percent of total oilseed and meal imports, compared with 69 percent in 1971-72 and 71 percent in 1970-71.

The substantial growth of Japan's oilseed and meal imports reflects expanding incomes and growing preferences for livestock and poultry products. In addition there is believed to have been some stockpiling due to the recent U.S. export restrictions and shortfall in foreign meal production.

Palm Oil Export Growth Slackens in 1972-73

Palm oil exports from the five major producer-exporters (West Malaysia, Sabah, Indonesia, Ivory Coast, and Zaire) for those months available during the year beginning October 1, 1972, rose to 1.07 million metric tons—15.9 percent (146,300 tons) above the same periods in 1971-72. This rate of increase represents some slackening in growth from the 17.4-percent rise achieved by some countries for the same period in 1971-72.

Combined palm oil exports by these major producer-exporters are expected to total 1.16 million metric tons for 1972-73—160,000 tons (16 percent) above the 1971-72 volume. This is somewhat less than the 18.3-percent growth in the 1971-72 season.

PALM OIL EXPORTS BY MAJOR PRODUCER-EXPORTER COUNTRIES
[In thousands of metric tons]

Country	Period	Year beginning Oct. 1		
		1970	1971	1972
Malaysia, West	Oct.-Sept.	504.2	574.2	700.0
Sabah	Oct.-Sept.	38.8	62.9	75.1
Indonesia	Oct.-June	112.2	160.9	199.4
Ivory Coast	Oct.-June	23.7	30.0	31.9
Zaire	Oct.-Aug.	103.8	92.1	60.0
Total	———	782.7	920.1	1,066.4

Egypt Buys More U.S. Cottonseed Oil

The U.S. trade reports Egypt has purchased an additional 30,000 metric tons of U.S. cottonseed oil for import through early 1974. Total U.S. exports of cottonseed oil, January through September 1973, approximated 210,000 tons, including 86,000 tons to Egypt—the largest single-country market.

Argentina's Oilseed Cake And Meal Exports Up Sharply

During January-September 1973, Argentine exports of oilseed cake and meals rose to 553,600 metric tons (soybean meal equivalent), compared with only 242,900 tons in the same 9 months of 1972. The increase was equal in protein content to 14 million bushels of soybeans.

The export expansion largely reflects heavier movements

of sunflower and peanut meals from larger 1973 harvests as well as initiation of soybean meal exports in 1973. Although soybean meal exports through September amounted to only 16,200 tons, production from the 1973 crop should boost meal output by nearly 140,000 tons above the small (roughly 55,000-tons) calculated meal output of the 1972 crop.

LIVESTOCK AND MEAT PRODUCTS

Mexico Sets Cattle Export Quotas

After a delay, the Government of Mexico has announced a 598,000 head feeder-cattle-export quota for the year which began September 1. The initial quota could be increased at a later date, as has been the past practice.

Also announced was an open-end quota for Holstein steer calf exports, which could add another 10,000-20,000 head to the announced total.

U.S. imports of Mexican feeder cattle during September 1972-August 1973 totaled 811,570 head.

New Zealand Pushing Lamb Exports to the United Kingdom

New Zealand is trying to market as many lambs as possible in the United Kingdom before imposition of an additional duty of approximately 3.2 N.Z. cents per pounds, effective January 1, 1974. The action was taken as the United Kingdom moves to adopt the Common External Tariff for sheepmeat.

In view of current high meat prices, the U.K. Ministry of Agriculture and Fisheries had appealed for increased shipments of lambs to the United Kingdom in 1973-74, a position contrary to previous U.K. lamb import policy.

West Germany To Halt Some Latin American Beef Imports

The West German Committee of Federal and State Veterinary Officials will stop issuing import permits for bone-in beef and veal from Latin American countries, effective January 1, 1974. An Agriculture Ministry official declared the measure necessary to prevent entry of foot-and-mouth disease into Germany via imports.

Argentina, which shipped bone-in beef and veal to West Germany worth $39 million during January-June 1973, will be hardest hit by this decision.

GENERAL

Canadian Outlook Conference Scheduled for January 1974

The 34th annual Canadian Agricultural Outlook Conference will be held in Ottawa, January 28 and 29, 1974, instead of the latter part of November, the custom in recent years.

The availability of better information about crops and markets at that time of the year will permit better forecasts of the markets for the main agricultural commodities.

The conference is a Federal-Provincial meeting attended by Provincial Deputy Ministers of Agriculture and their staffs and some 300 representatives of farm organizations, agribusiness, university agricultural economics faculties, and Canada Department of Agriculture officials. A number of other Government departments and agency representatives interested in food products are also represented.

Japanese Firm Converts Food Element from Petroleum

A Japanese textile manufacturing firm—Toray Industries—has become the first company to convert L-lysine from a petrochemical derivative, according to Japanese press reports.

Lysine is one of the essential amino acids in animal feed and human food. It is provided by such natural sources as oilseed meal, fish meal, and yeast. Livestock products provide much of the lysine in the human diets.

Lysine is already produced synthetically in Japan using other techniques by at least two firms (Kyowa Hakko and Ajinomoto). Annual output is about 2,000 metric tons per year of which 400 tons are used in the domestic formula-feed industry and 1,600 tons are exported.

The new technique involves the use of a new enzyme and an intermediary petrochemical raw material (DL-lysine cyclic anhydride) and will be employed by Kyowa Hakko in a joint venture with Toray.

Annual production during the first stage (1975) will probably be 5,000-6,000 tons. The firms plan to increase production later to 30,000 tons, although no specifics are available.

Taiwan Reduces Tariffs On Eight Farm Products

The Republic of China's Ministry of Finance recently announced an across-the-board reduction of 50 percent in import tariff rates on 19 items, including eight agricultural commodities. The new duties take effect immediately for 6 months. Stated purpose of the reduction is to stabilize domestic market prices in Taiwan.

Of the agricultural commodities affected, two are of major interest to the United States: Corn ($17 million in exports in calendar 1972) and soybeans ($75.8 million in exports in the same year).

Tariff rates have been also reduced for imports of feed whey, barley, one variety of buckwheat, soybean powder, molasses, and wheat bran.

Bank Loan To Improve Colombia's Markets

The Inter-American Bank has announced the approval of a $6-million loan to improve wholesale farm marketing systems of three of Colombia's major cities.

The loan will be used to expand the central wholesale markets of Bogotá and Medellín and to construct a new market in Cali.

Other Foreign Agriculture Publications

- September U.S. Cotton Exports Push Cumulative 1973-74 Total to Third Highest in 11 Years (FC-24-73)
- World Cotton Production To Rise only Marginally in 1973-74 (FC-25-73)

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Soviet Grain Loan to India Part of Growing Trade Pattern

The Indian Government has recently been having difficulty in meeting demands by ration card holders for Government grain at fair-price shops, despite earlier U.S. grain shipments. Only about half the September demand of 1.5 million tons was reportedly satisfied and it appeared the situation in October would have been even worse.

Some of the pressure on grain supplies was temporarily eased by the Soviet decision in late September to lend India about 2 million tons of grain, a move indicative of the growing trade between the two countries.

It appears that about half the supply will come from Canadian and Australian wheat purchased earlier by Russia. Much of the remainder will come from Black Sea ports. The Russians have indicated that no transshipments of U.S. wheat will be involved in the arrangements. The first shipload of grain under this agreement arrived in India on October 8 from Australia.

India is expected to pay for the grain by boosting exports to the Soviet Union over the next few years. Likely commodities are cotton, textiles, jute products, tea, tobacco, cashew kernels, and various tropical products.

Increased Soviet purchases of tea, tobacco, jute products, and coffee during the last 5 years have resulted in increased income for Indian producers. Also, these export sales have helped producers alleviate surplus supplies of these commodities.

India's agricultural exports to the Soviet Union now approximate $250 million annually, almost five times their 1962 value, and account for about one-fourth of India's total farm exports of $1 billion. Soviet-Indian trade is over two to one in India's favor.

Although the Russian grain loan will help relieve India's deficit situation, it will not completely solve India's grain problems.

Most of the 4.4 million tons of domestic wheat procured by the Indian Government in the spring of 1973 has already been distributed. The deficit areas (mainly port cities) will not derive a great deal of benefit from the larger harvest of 1973-74 kharif (winter-harvested) crops of rice and coarse grains that went into full swing in November. Government procurement of rice for delivery to deficit States in 1973-74 is targeted at 2.9 million tons and the coarse grain procurement target is approximately 1 million tons.

India will not be able to procure much more wheat from its farmers until April 1974. Until then about 100 million urban residents will have to depend on imported wheat. About 1.5 million tons of wheat purchased for cash in the United States plus the Canadian and Australian wheat provided by the Soviet Union should be enough to keep Indian flour mills in operation until the new crop is harvested and supply part of the consumer demand at fair-price shops.

Larger supplies of rice and coarse grains in small private shops should provide most city dwellers with sufficient grain despite the shortage of wheat. However, some urban dwellers may have to change their diets which now often consist of bread and various traditional wheat products eaten together with rice and vegetables.

Food-zone regulations restricting private grain movements will have more of an impact on wheat supplies in port cities than on other cereals. The States where major port cities are located produce only a small part of their wheat needs, but supply most of their own rice and coarse grains.

—By JOHN B. PARKER, *ERS*

World Fish Situation

Continued from page 4

controlled catches and a limit to pollution which will allow for limited expansion of catch levels. In the absence of such cooperation, catches could fall and even heavier pressure could be exerted on protein supplies. In that event, current prices of both fish and red meat could look relatively cheap in the future.

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